

```
IT24102511.R
1 getwd()
2 setwd("C:\\Users\\user\\Desktop\\IT24102511")
3 getwd()
4
5
6 #Q1
7 #Uniform Distribution
8 #Let X - The number of minutes the train arrives after 8:00 a.m.
9 #P(10 <= X <= 25) = P(X <= 25) - P(X <= 10)
10 punif(25, min = 0, max = 40, lower.tail = TRUE) - punif(10, min = 0, max = 40, lower.tail = TRUE)
11
12 #Q2
13 #Exponential Distribution
14 #Let X - The time (in hours) to complete a software update
15 #P(X <= 2)
16 pexp(2, rate = 0.33, lower.tail = TRUE)
17
18 #Q3
19 #Normal Distribution
20 #i) P(X > 130) = 1 - P(X <= 130)
21 1 - pnorm(130, mean = 100, sd = 15, lower.tail = TRUE)
22 #ii) P(X <= x) = 0.95
23 qnorm(0.95, mean=100, sd=15, lower.tail=TRUE)
```

```
Console Terminal Background Jobs
R 4.5.1 - C:/Users/user/Desktop/IT24102511/
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.

Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

[Workspace loaded from ~/.RData]

> getwd()
[1] "C:/Users/user/Documents"
> setwd("C:\\Users\\user\\Desktop\\IT24102511")
> getwd()
[1] "C:/Users/user/Desktop/IT24102511"
> #Q1
> #Uniform Distribution
> #Let X - The number of minutes the train arrives after 8:00 a.m.
> #P(10 <= X <= 25) = P(X <= 25) - P(X <= 10)
> punif(25, min = 0, max = 40, lower.tail = TRUE) - punif(10, min = 0, max = 40, lower.tail = TRUE)
[1] 0.375
> #Q2
> #Exponential Distribution
> #Let X - The time (in hours) to complete a software update
> #P(X <= 2)
> pexp(2, rate = 0.33, lower.tail = TRUE)
[1] 0.4831487
> #Q3
> #Normal Distribution
> #i) P(X > 130) = 1 - P(X <= 130)
> 1 - pnorm(130, mean = 100, sd = 15, lower.tail = TRUE)
[1] 0.02275013
> #ii) P(X <= x) = 0.95
> qnorm(0.95, mean=100, sd=15, lower.tail=TRUE)
[1] 124.6728
>
```